

In the United States Patent and Trademark Office

Appn. Number: _____

Appn. Filed: _____

Applicant(s): Welch

Appn. Title: Semiconductor Device In Compensated Semiconductor
Examiner/GAU: 1324

Mailed: With Application
At: _____

Information Disclosure Statement

Commissioner of Patents and Trademarks
Washington, District of Columbia 20231

Sir:

Attached is a completed Form PTO-1449 and copies of the pertinent parts of the references cited thereon.
Following are comments on these references pursuant to Rule 98:

PATENTS

Patent No. 5,663,584 to Welch describe semiconductor devices which operate on the basis that materials exist which produce a rectifying junction with semiconductor channel regions when they are doped either N or P-type, whether said doping is achieved via metallurgical or field induced means.

Patent, No. 5,760,449 to Welch describes Source Coupled Regeneratively Switching CMOS formed from a seriesed combination of N and P-Channel MOSFETES which each demonstrate the special operating characteristics of conducting significant current flow only when the Drain and Gate of a 449 Patent MOSFET are of opposite polarity, and the Gate polarity is appropriate to invert a channel region.

Patent No. 6,091,128 to Welch describes prevention of parasitic currents in semiconductor substrates.

Patent No. 6,268,636 to Welch describes a single device equivalent to CMOS.

Patents to:

Lepselter, No. 4,300,152;
Koeneke et al., No. 4,485,550;
Welch, No. 4,696,093;
Mihara et al., No. 5,049,953;
Homna et al. No. 5,177,568;
Nowak, No. 5,250,834; and

Shirato, Japanese Patent 404056360 A

are also disclosed as they describe Schottky barrier systems.

ARTICLES

A relevant article titled "SB-IGFET: An Insulated Gate Field Effect Transistor using Schottky Barrier Contacts for Source and Drain", by Lepselter & Sze, Proc. IEEE, 56, Jan. 1968, pp. 1400-1402, is also identified in said 584 Patent.

Further, a paper by Lebedov & Sultanov, titled "Some Properties of Chromim-Doped Silicon", Soviet Physics, Vol. 4, No. 11, May 1971 is identified as it discusses formation of a rectifying junction by diffusion of chromium into P-type Silicon.

A paper by Hogeboom & Cobbold, titled "Etched Schottky Barrier MOSFETS Using A Single Mask, Electronics Letters, Vol. 7, No. 5/6, (Mar. 1971) is also included as it describes formation of Schottky barrier MOSFETS by deposition of Aluminum onto semiconductor.

Articles which are incorporated by reference hereinto, and which describe fabrication of non-scale conventional Schottky-barrier MOSFETS are:

"Sub-40 nm PtSi Schottky Source/Drain Metal-Oxide-Semiconductor Field-Effect Transistors", Wang, Snyder & Tucker, Appl. Phys. Lett., Vol. 74, No. 8, (22 Feb. 1999); and

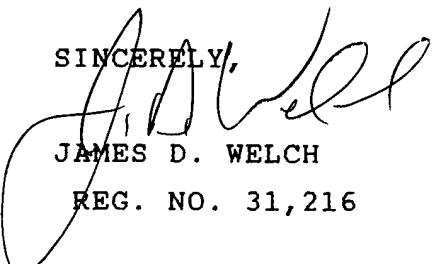
"Experimental Investigation of a PtSi Source and Drain Filed Emission Transistor", Synder, Helms & Nishi, Appl. Phys. Lett. 67(10) (4 Sept 1995).

"The Metal-Semiconductor Contact: An Old Device With a New Future", Yu, IEEE Spectrum (March 1970).

Not accompanying is a book titled "Microelectronic Circuits" by Sedra and Smith, Saunders College Publishing, 1991.

Likewise mentioned, but not included is a book titled "Physics and Technology of Semiconductor Devices", by Grove, John Wiley & Sons, 1967; and

a book titled "Electronic Materials Science: For Integrated Circuits in Si and GaAs", Mayer & Lau, MacMillan, 1990.

SINCERELY,

JAMES D. WELCH
REG. NO. 31,216

PLEASE USE IN PLACE OF PTO FORM 1449 FOR SCIENTIFIC ARTICLES

"SB-IGFET: An Insulated Gate Field Effect Transistor using Schottky Barrier Contacts for Source and Drain", by Lepselter & Sze, Proc. IEEE, 56, Jan. 1968, pp. 1400-1402.

"Some Properties of Chromim-Doped Silicon", Soviet Physics, Lebedov & Sultanov, Vol. 4, No. 11, May 1971 is identified as it discusses formation of a rectifying junction by diffusion of chromium into P-type Silicon.

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"The Metal-Semiconductor Contact: An Old Device With a New Future", Yu, IEEE Spectrum (March 1970).

LIST OF PRIOR ART CITED BY APPLICANT

(Use several sheets if necessary)

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
AA	5 663584	9/1997	Welch	257	288	
AB	5 7604496	1/1998	Welch	257	369	
AC	6 0911287	7/2000	Welch	257	476	
AD	6 2686367	1/2001	Welch	257	476	
AE	4 300157	11/1981	LepreTter	357	42	
AF	4 485550	12/1984	Hoenenke et al.	29	571	
AG	4 696093	9/1987	Welch	437	176	
AH	5 0499539	9/1991	Mihara et al.	357	15	
AI	5 1775681	1/1993	Honma et al.	257	295	
AJ	5 250834	10/1993	Nowatz	257	350	
AK						

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION
				YES	NO	
AL	4-56360	2/1992	Shirato			
AM						

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR		
AS		

EXAMINER	DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.